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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,785

06/10/2005

Dai Shinozaki

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12/28/2006

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EXAMINER

VAZQUEZ, ARLEEN M

ART UNIT

PAPER NUMBER

2829

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/28/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/538,785

Applicant(s)

SHINOZAKI ET AL.

Examiner

Arleen M. Vazquez

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 and 9-10 are rejected under 35 U.S.C. 102(e) as being anticipated by ***lino et al. (US 6,777,967)***.

As to claim 1, ***lino et al.*** discloses in Figures 2 and 4A-4B an apparatus to perform a method of inspecting an electrical characteristic of a to-be-inspected object, comprising bringing a pair of probe pins (12A and 12B) into contact with respective electrodes (P) of at least one to-be-inspected object (W), simultaneously applying a voltage (voltage is able to be simultaneously applied because each pair of probe pins have there own control circuit 14) to the respective inspection electrodes (P) via the pairs of probe pins (12A and 12B) by drivers (14A) connected to the respective pairs of probe pins (12A and 12B), thereby causing a fritting phenomenon (Col. 7 Ins 30-34) in which a predetermined potential inclination (Col. 8 Ins 44-55) is formed and a current flows to break an oxide film (O, see Fig 4B) to occur between tips of each pair included in the pairs of probe pins (12A and 12B), and applying an inspection signal from drivers

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(Col. 8 Ins 15-18) to the electrodes (P) of the to-be-inspected object (W) via the respective pairs of probes pins (12A and 12B), thereby inspecting an electrical characteristic of the to-be-inspected object (W) by a tester (13).

As to claim 2, *lino et al.* discloses in Figures 2 and 4A-4B wherein the driver (14A) transmits the inspection signal (Col. 8 Ins 15-18) via respective electrical connection lines (lines connecting control circuit 14 with probes pins 12A and 12B) connecting the driver (14A) to the respective probe pins (12A) included in the pairs of probe pins (12A and 12B), respective drivers (14A) apply a voltage. Which causes a fritting phenomenon (Col. 7 Ins 30-34) to the respective electrodes (P) via the electrical connection lines and the respective pairs of probe pins (12A and 12B).

As to claim 3, *lino et al.* discloses in Figures 2 and 4A-4B wherein the applying the voltage by the drivers (14A) which are connected to the respective pairs of probe pins (12A and 12B) to the respective electrodes (P) via the electrical connection lines (lines connecting control circuit 14 with probes pins 12A and 12B) and the respective pairs of probe pins (12A and 12B) includes sequentially applying the voltage (voltage is able to be sequentially applied because each pair of probe pins have there own control circuit 14) to the electrodes (P) instead of simultaneously applying the voltage to the electrodes (P) .

As to claim 4, *lino et al.* discloses in Figures 2 and 4A-4B wherein when the voltage applied by the drivers (14A) to the respective electrodes (P) reaches a predetermined limit value, when a current resulting from the voltage shows a

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predetermined change, or when the current shows a predetermined change, application of the voltage (Col. 8 Ins 44-55) to the electrodes (P) is stopped.

As to claim 5, *lino et al.* discloses in Figures 2 and 4A-4B an apparatus for inspecting an electrical characteristic of a to-be-inspected object comprising pairs of probe pins (12A and 12B) to be brought into contact with respective electrodes (P) of at least one to-be-inspected object (W), drivers (14A) connected to the respective pairs of probe pins (12A and 12B) to simultaneously apply a voltage (voltage is able to be simultaneously applied because each pair of probe pins have there own control circuit 14) to the respective inspection electrodes (P), a fritting phenomenon (Col. 7 Ins 30-34) in which a predetermined potential inclination (Col. 8 Ins 44-55) is formed and a current flows to break an oxide film (O, see Fig 4B) occurring between tips of each pair included in the pairs of probe pins (12A and 12B), as a result of application of the voltage, a tester (13) which transmits, after the fritting phenomenon occurs, an inspection signal (Col. 9 Ins 1-7) to electrodes (P) to the electrodes (P) of the to-be-inspected object (W), thereby inspecting an electrical characteristic of the to-be-inspected object (W).

As to claim 9, *lino et al.* discloses in Figures 2 and 4A-4B an apparatus to perform a method of inspecting an electrical characteristic of a to-be-inspected object, comprising bringing a pair of probe pins (12A and 12B) into contact with respective electrodes (P) of at least one to-be-inspected object (W), sequentially applying a voltage (voltage is able to be sequentially applied because each pair of probe pins have there own control circuit 14) to the respective inspection electrodes (P) via the pairs of probe pins (12A and 12B) by drivers (14A) connected to the respective pairs of probe pins

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(12A and 12B), thereby causing a fritting phenomenon (Col. 7 Ins 30-34) in which a predetermined potential inclination (Col. 8 Ins 44-55) is formed and a current flows to break an oxide film (O, see Fig 4B) to occur between tips of each pair included in the pairs of probe pins (12A and 12B), and applying (Col. 8 Ins 15-18) an inspection signal by the respective drivers (14A) to the electrodes (P) of the to-be-inspected object (W) via the respective pairs of probes pins (12A and 12B), thereby inspecting an electrical characteristic of the to-be-inspected object (W) by a tester (13), wherein each driver (14A) transmits the inspection signal and the voltage signal via electrical connection lines (lines connecting control circuit 14 with probes pins 12A and 12B) connecting the driver (14A) to the respective probe pins included in the pairs of probe pins (12A and 12B).

As to claim 10, *lino et al.* discloses in Figures 2 and 4A-4B wherein when the voltage applied by the drivers (14A) to the respective electrodes (P) reaches a predetermined limit value, when a current resulting from the voltage shows a predetermined change, or when the current shows a predetermined change, application of the voltage (Col. 8 Ins 44-55) to the electrodes (P) is stopped.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over *lino et al.* (US 6,777,967) in view of ***Applicant's Admitted Prior Art of Figure #2***.

As to claim 6, *lino et al.* discloses in Figures 2 and 4A-4B pairs of probe pins (12A and 12B) to be brought into contact with the respective electrodes (P); electrical connection lines (lines connecting control circuit 14 with probes pins 12A and 12B) connecting the driver (14A) to the respective pairs of probe pins (12A and 12B), the drivers (14A) being connected to the respective pairs of probe pins (12A and 12B) to apply a voltage to the respective electrodes (P), and wherein the electrical connection lines (lines connecting control circuit 14 with probes pins 12A and 12B) transmit the inspection signal from the tester (13) and the voltage from the drivers (14A) to the respective electrodes (P) of the to-be-inspected object (W), but fails to disclose the drivers provided in the tester circuit, However ***Applicant's Admitted Prior Art of Figure #2*** discloses drivers (located on tester 4) provided in the tester circuit (4).

It would have been obvious for one ordinary skill in the art at the time the invention was made to modify *lino et al.* teachings by having drivers in a tester as taught as ***Applicant's Admitted Prior Art of Figure #2*** to avoid interference inside the testing equipment and to avoid erroneous testing measurements.

As to claim 7, *lino et al.* fails to disclose wherein the driver is provided in the tester, and has a function of sequentially applying a voltage to the respective electrodes in addition to simultaneously applying a voltage to the respective electrodes. However ***Applicant's Admitted Prior Art of Figure #2*** shows the driver (located on tester 4) provided in the tester circuit (4) and has a function (this apparatus can be capable of

apply voltage simultaneously and also sequentially because of the switching mechanism 3 each pair of probes comprises) of sequentially applying a voltage to the respective electrodes in addition to simultaneously applying a voltage to the respective electrodes.

It would have been obvious for one ordinary skill in the art at the time the invention was made to modify *lino et al.* teachings by having drivers in a tester being capable of applying simultaneously and sequentially voltage as taught as ***Applicant's Admitted Prior Art of Figure #2*** to avoid interference inside the testing equipment, to avoid erroneous testing measurements and be able to perform different testing modes with same equipment.

As to claim 8, *lino et al.* discloses in Figures 2 and 4A-4B comparators (14C and 14D) connected between the respective drivers (14A) and the respective pairs of probe pins (12A and 12B), the drivers (14A) to the respective electrodes (P) reaches a predetermined limit value, whether a current resulting from the voltage reaches a predetermined value, and whether the current shows a predetermined range and wherein when the comparators (14C and 14D) detect whether one of the voltage and a current reaches the predetermined limit value, the drivers (14A) stop application (Col. 8 Ins 44-55) of the voltage to the probe pins (12A and 12B).

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Okubo (US 6,529,011) discloses a "Method and apparatus for inspecting electronic components".

Aihara (US 6,788,090) discloses a "Method and apparatus for inspecting semiconductor device".

Response to Arguments

6. Applicant's arguments with respect to claims 1 and 5 filed on October 3, 2006 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

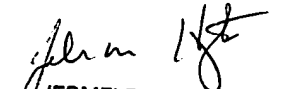
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arleen M. Vazquez whose telephone number is 571-272-2619. The examiner can normally be reached on Monday to Friday, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMV


JERMELE HOLLINGTON
PRIMARY EXAMINER